

ABSTRACTUSER PROGRAMMABLE COMBINATION OF ATOMIZED
PARTICLES
FOR ELECTROMAGNETICALLY INDUCED CUTTING

An electromagnetically induced cutting mechanism which can provide accurate cutting operations on both hard and soft materials is disclosed. The electromagnetically induced cutter is capable of providing extremely fine and smooth incisions, irrespective of the cutting surface. Additionally, a user programmable combination of atomized particles allows for user control of various cutting parameters. The various cutting parameters may also be controlled by changing spray nozzles and electromagnetic energy source parameters. Applications for the cutting mechanism include medical, dental, industrial (etching, engraving, cutting and cleaning) and any other environments where an objective is to precisely remove surface materials without inducing thermal damage, uncontrolled cutting parameters, and/or rough surfaces inappropriate for ideal bonding. The cutting mechanism further does not require any films of water or any particularly porous surfaces to obtain very accurate and controllable cutting.